

What is claimed is:

1. An apparatus for computing a preferred set of prices for a plurality of products, comprising an optimization engine comprising computer readable media, comprising:

5 computer readable code for storing a plurality of rules;

computer readable code for allowing the prioritization of the plurality of rules; and

computer readable code for relaxing at least one lower priority rule to allow a higher priority rule to become feasible.

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2. The apparatus, as recited in claim 1, further comprising:

an econometric engine for modeling sales as a function of price to create a sales model; and

a financial model engine for modeling costs to create a cost model, wherein the optimization engine is coupled to the econometric engine and financial model engine to receive input from the econometric engine and financial model engine and, wherein the optimization engine generates the preferred set of prices.

20 3. The apparatus, as recited in claim 2, further comprising a support tool for allowing a user to set a plurality of rules and for prioritizing the plurality of rules.

4. The apparatus, as recited in claim 3, wherein the computer readable code for relaxing at least one lower priority rule, comprises:

computer readable code for determining a priority of a rule determined to be infeasible;

5 computer readable code for determining if at least one rule with a lower priority than the priority of the rule determined to be infeasible may be relaxed to allow the rule determined to be infeasible to become feasible; and

computer readable code for relaxing at least one rule with a lower priority than the priority of the rule determined to be infeasible to allow the

10 rule determined to be infeasible to become feasible.

5. The apparatus, as recited in claim 4, wherein at least one of the plurality of rules is a gross margin rule, which defines a constraint on the change of gross margin.

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6. The apparatus, as recited in claim 5, wherein the constraint on change of the gross margin is placed on each product of a group of products.

7. The apparatus, as recited in claim 5, wherein the constraint on change  
20 of the gross margin is placed on an average gross margin of a group of products.

8. The apparatus, as recited in claim 4, wherein at least one of the plurality of rules is a store level volume rule, which defines a constraint on the change of volume of sales at a store level.

5 9. The apparatus, as recited in claim 4, wherein at least one of the plurality of rules is a competition rule, which provides a constraint on the difference between at least one competitor's prices.

10. The apparatus, as recited in claim 1, wherein the computer readable code for relaxing at least one lower priority rule, comprises:

computer readable code for determining a priority of a rule determined to be infeasible;

computer readable code for determining if at least one rule with a lower priority than the priority of the rule determined to be infeasible may be relaxed to allow the rule determined to be infeasible to become feasible; and

computer readable code for relaxing at least one rule with a lower priority than the priority of the rule determined to be infeasible to allow the rule determined to be infeasible to become feasible.

20 11. A method for computing a preferred set of prices for a plurality of products, comprising generating a preferred set of prices, comprising:

storing a plurality of rules;

allowing the prioritization of the plurality of rules; and

relaxing at least one lower priority rule to allow higher priority rules to become feasible.

12. The method, as recited in claim 11, further comprising:

5 creating a sales model; and

creating a cost model, wherein the generating a preferred set of prices uses information from the creation of the sales model and the creation of the cost model.

10 13. The method, as recited in claim 12, wherein the relaxing at least one lower priority rule, comprises:

determining a priority of a rule determined to be infeasible;

determining if at least one rule with a lower priority than the priority of the rule determined to be infeasible may be relaxed to allow the rule

15 determined to be infeasible to become feasible; and

relaxing at least one rule with a lower priority than the priority of the rule determined to be infeasible to allow the rule determined to be infeasible to become feasible.

20 14. The method, as recited in claim 13, wherein at least one of the plurality of rules is a gross margin rule, which defines a constraint on the change of gross margin.

15. The method, as recited in claim 14, wherein the constraint on change  
of the gross margin is placed on each product of a group of products.

16. The method, as recited in claim 14, wherein the constraint on change  
5 of the gross margin is placed on an average gross margin of a group of  
products.

17. The method, as recited in claim 13, wherein at least one of the plurality  
of rules is a store level volume rule, which defines a constraint on the change  
10 of volume of sales at a store level.

18. The method, as recited in claim 13, wherein at least one of the plurality  
of rules is a competition rule, which provides a constraint on the difference  
between at least one competitor's prices.

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19. The method, as recited in claim 11, wherein the relaxing at least one  
lower priority rule, comprises:

determining a priority of a rule determined to be infeasible;

20. determining if at least one rule with a lower priority than the priority of  
the rule determined to be infeasible may be relaxed to allow the rule  
determined to be infeasible to become feasible; and

relaxing at least one rule with a lower priority than the priority of the  
rule determined to be infeasible to allow the rule determined to be infeasible to  
become feasible.

20. The method, as recited in claim 11, wherein the relaxing at least one lower priority rule, comprises:

determining the lowest priority infeasible rule;

5 determining if at least one rule with a lower priority than the lowest priority infeasible rule may be relaxed to allow the lowest priority infeasible rule to become feasible; and

relaxing at least one rule with a lower priority than the lowest priority infeasible rule to allow the lowest priority infeasible rule to become feasible.